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ABSTRACT

This report addresses three levels of questions about the effectiveness of the Michigan State University Multiple Risk Outreach Program (MROP). The MROP was designed to recruit families from this high-risk population and test the implementation of an intervention protocol in a population-based program for 3- to 6-year-olds and their families. This intervention protocol had proven to be effective in the management and reduction of conduct problems among older, clinically referred children. A total of 99 families, all Caucasian, formed the study sample. Questions addressed concerned: (1) the effectiveness of the recruitment strategy; (2) characteristics of the mother-only treatment condition, the both-parents treatment condition, and the no-treatment control condition; and (3) the outcome for children in families who received the intervention protocol versus the outcome for those who did not. Data from the subset of families who completed the intervention and the study through the posttreatment assessment and evaluation phase are presented. (RH)

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# A Prevention Program for Preschool C.O.A. s: Design and Early Effects

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Paper presented at the Annual Meeting of the American Psychological Association, Boston, August 1990

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# A Prevention Program for Preschool C.O.A.s: Design and Early Effects[1]

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## Statement of Problem

A variety of clinical and empirical studies of children of alcoholics describe the numerous difficulties these children experience with interpersonal relationships (Cermak, 1984; Morehouse, 1984), hyperactivity (Cantwell, 1972; Tarter, Hegedus, & Gavaler, 1985), antisocial characteristics (Herjanic, Herjanic, Penick, Tomelleri, & Ambruster, 1977; Noll, 1983; Robins, 1966), and impulsivity (Knop, Teasdale, Schulsinger, & Goodwin, 1985; Rydelius, 1983). Furthermore, families with parents who have alcohol related problems are characterized by more intense marital conflict, parental deviance, inconsistent parenting, and higher rates of divorce than is true of the general population (Ablon, 1976; Chafetz, Blane, & Hill, 1971; DHHS, 1983; El-Guebaly & Orford, 1977; Moos & Billings, 1982; Paolino & McCrady, 1977). With these multiple risk factors, children from such families are an important target for prevention efforts.

The Michigan State University Multiple Risk Outreach Program (Zucker & Noll, 1987)[3] was designed (a) to recruit families from this high risk population, and (b) to test whether an intervention protocol which had proven effective in the management and reduction of conduct problems among older, clinically referred children could also be implemented in a population-based program for 3 to 6 year olds and their families. The program was conducted using an outreach protocol, thus insuring that virtually all of these quite young children would not yet be a part of the treatment system. The program was explicitly prevention-focused in its goals. It was implemented in a three-county area in Mid-Michigan, beginning in 1985.

This report addresses three levels of questions about the effectiveness of the program:

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[2]This work was supported in part by grants to Robert A. Zucker, Robert B. Noll, and Hiram E. Fitzgerald from the National Institute of Alcohol Abuse and Alcoholism (AA 07065), from the Michigan Department of Mental Health, Prevention Services Unit, from the Michigan Department of Public Health, Office of Substance Abuse Services; it was also partially supported by an award to Robert A. Zucker from the Social Science Research Bureau, Michigan State University.

[3]The program was originally known as the Michigan State University Prevention of Conduct Disorders Project, but the current name more aptly characterizes both the population and the goals of the intervention.

(1) How effective was the recruitment strategy? The design called for an extensive initial assessment of child and family functioning, followed by a ten to twelve month prevention/intervention protocol, with further assessments at four months into treatment, at the end of treatment, and at six and eighteen month follow-up intervals. Using the local district court system as a means of making initial contact with target families, how successful was the program in gaining families' voluntary participation in and completion of this extensive set of experience?

(2) The design called for random assignment to two treatment conditions and a no-treatment control group. What were the characteristics of the resulting groups and how comparable were they?

(3) What was the outcome for the children in families who received the prevention/intervention protocol versus the outcome for those who did not? Given that these families were not seeking professional assistance at the time of first contact, is there evidence that they were able to make use of the family management skills that were offered on behalf of their child? If so, were there any differences over time between the behavior of children in treated versus untreated families that could be attributed to the goals of the intervention itself?

This report presents data relevant to these questions from the subset of families who have completed the intervention and/or research protocol through the post-treatment assessment/ evaluation phase.

Subjects and Methods

A total of 99 families, all Caucasian, formed the study sample. A summary of the families demographic characteristics is presented in Table 1. Parents were approximately 30 years of age and had high school educations. The parents were of working class occupational status. The average family in this study had 2.3 children. The mean age of the target child was 4.5 years.

Families were systematically recruited by screening all drunk driving arrests in all district courts in a three county area in mid-Michigan. Those families with appropriate characteristics (father's blood alcohol level at least 0.15%, male child age 3.0 to 6.0, father living with child's biological mother) were asked by court personnel whether they would allow their names to be released to project staff who were identified as the MSU Family Study, "a study of family health and child development". If the family agreed to participate they were randomly assigned to one of three treatment conditions and then began an eight session assessment schedule that included both parents and the target child. It should be noted that no offer of intervention was made at this first contact time, although families were made aware that the university was offering some parent help programs that might be available to them at a later date. The majority of data collection took place in respondents' homes and they were paid a modest fee for taking part. After completing this initial assessment, and provided that the family was currently intact, resided within the 30 mile radius service area, and had previously been assigned to one of the treatment conditions, they were then invited to take part in a program that would improve parent-child communication

Table 1
Characteristics of Families Completing the Initial Assessment (N = 99)

| Characteristic | Mean | SD | Range |
|---|---|---|---|
| **Parents** | | | |
| Age (yrs) | | | |
| Mother | 29.2 | 4.6 | 20 - 40 |
| Father | 31.2 | 4.8 | 22 - 48 |
| Education (yrs) | | | |
| Mother | 12.8 | 1.9 | 9 - 20 |
| Father | 12.3 | 1.9 | 7 - 18 |
| Lifetime Alcohol Problems Score | | | |
| Mother LAPS | 10.0 | 2.0 | 8 - 15 |
| Father LAPS | 10.5 | 2.0 | 7 - 16 |
| Antisocial Behavior | | | |
| Mother Total | 14.1 | 8.6 | 0 - 47 |
| Father Total | 23.7 | 16.0 | 3 - 94 |
| Depression (Beck) | | | |
| Mother Total Score | 4.3 | 3.9 | 0 - 16 |
| Father Total Score | 3.2 | 3.4 | 0 - 19 |
| **Family** | | | |
| Income (median) | $25,000 | | |
| Socio-economic Status* | 298.3 | 140.7 | 130 - 790 |
| % Married | 89% | | |
| % Cohabiting but not married | 11% | | |
| Married | 7.1 | 3.6 | 1 - 18 |
| Number of Children | 2.3 | .9 | 1 - 4 |
| **Target Child** | | | |
| Age (yrs) | 4.5 | | |

Note. *Socio-economic status measured by the Duncan TSEI2 index (Stevens & Featherman, 1980).

and would help with child behavior problems. At this point, with the extensive amount of pretest data collected, the staff person had a substantial amount of information, given by the parents, which indicated the family's need for such a program.

In the first treatment condition (Group 1, the MOTHER ONLY CONDITION) the intervention protocol was made available only to the primary caretaker of the child. This condition was designed to approximate a circumstance in which there was a single parental caretaker - either because of divorce or because the other partner was a nonparticipant in childrearing activities. In the second condition (Group 2, the BOTH PARENTS CONDITION) both parents needed to agree to involve themselves in the intervention. This condition was designed to address family problems in families where both parents were involved in the child rearing. The third condition (Group 3) was the NO TREATMENT CONTROL CONDITION.

All families took part in three follow-up data collections after the initial assessment. Posttest 1 was done following completion of the child focused portion of the intervention for families in treatment (generally 12 to 16 weeks after the first session), or at 6 months after completing the initial assessment for all other families. Posttest 2 was done at the conclusion of the intervention (generally 48 to 50 weeks after the first session) for families receiving the intervention, or 12 months after completion of the initial assessment for all other families. A follow-up assessment was conducted 6 months after treatment completion for intervention families, or 18 months after completion of the initial assessment for all other families.

To evaluate comparability of the groups resulting from random assignment, data from three pretest measures of salient parent characteristics were examined: (a) Prior antisocial history was assessed using the Antisocial Behavior Checklist (ASB) (Zucker & Noll, 1980), a 46 item, self-administered inventory measuring a variety of antisocial activities that may have been done during childhood, adolescence, and adulthood. The instrument has been shown to have good psychometric properties (Zucker & Barron, 1973; Zucker & DeVoe, 1975). (b) Parental depression was evaluated with the Beck Depression Inventory (short form) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), a widely used 13 item, self-report measure of the severity of depressive symptoms. (c) A composite measure of lifetime alcohol related problems, the Lifetime Alcohol Problems Score (LAPS), (Zucker, 1990). (d) Demographic information (e.g., occupational status, age, and parent education) were also available and allowed for comparisons of equivalence among groups.

The intervention regimen employed is a modification and extension of Social Learning Therapy, a behavior modification strategy developed in the treatment of older aggressive/ antisocial children by Patterson, Reid, and colleagues at the Oregon Social Learning Center (Patterson, 1974; Patterson, 1982; Patterson, Chamberlain, & Reid, 1982). The standard OSLC intervention focuses in programmed steps on child non-compliance, parents' inconsistent monitoring and ineffective disciplinary practices, and family problem solving skills. The program offered by MSU extends this approach to non-referred families with very young children and includes additional attention to parents' alcohol and drug problems, marital functioning, and other parent issues. The planned length of treatment was 28

sessions. Sixteen weekly sessions focused initially on child management skills and then moved to other family issues in the problem solving phase of the protocol. Weekly sessions were followed by 12 biweekly sessions devoted to supporting and reinforcing child management skills, as well as continuing work on solving other family problems. Between session phone contacts and the availability of home-based treatment for families who needed it were both used to help families stay engaged in the work.

The primary goal for children in this intervention was to reduce the rate of conduct problems and increase the rate of prosocial behaviors. To evaluate child outcome, data from the Child Behavior Rating Scale: Preschool Version (CBRS) (Noll & Zucker, 1985; adapted from Hopps, 1985) are presented. This instrument consists of 49 items rating prosocial behaviors and 35 items rating undesirable, coercive behaviors typical of preschool children. Since mothers tend to spend more time with children at this age, the study focuses on maternal reports of prosocial and undesirable child behaviors before, during, and at the end of the intervention sequence, and compares these reports with those of mothers in the no-treatment control group at the same time intervals. Maternal ratings of child behavior on the CBRS are combined for both treatment conditions for this analysis.

Results

(1) Of 104 families recruited for initial assessment, 99 (95.2%) completed the initial assessment.

(2) No significant differences between groups were found on three pretest measures of parent risk (lifetime alcohol problems, antisocial history, and depression). Likewise, no significant differences between groups were found on demographic variables (parent's education, parent's age, years married, family income, and family SES). Finally, no differences between groups were detected for mothers' pretest ratings of child behavior on the CBRS. This finding is typical of other analyses conducted on pretest data, suggesting that random assignment was successful in creating groups without initial differences on pertinent family risk characteristics.

(3) Table 2 presents the status of the 99 families completing the initial assessment at the second post-test (completion of intervention or 12 months post initial assessment). As shown, 63% (17) of the families in the Mother Only condition completed the intervention as compared to 41% (12) families in the Both Parents condition. The difference in number of the families completing the intervention was principally accounted for by the significant difference, $X^2$ (1, $N$ = 15) = 4.0, $p < .05$ in the number of families in the Both Parents condition ($n$ = 12) who refused or could not engage with the intervention as compared to the Mother Only condition ($n$ = 4). In virtually all of the Both Parent families who refused, it was the fathers' unwillingness to engage in the work that was the critical factor. This suggests that additional effort and possibly different external constraints will need to be used if family focused work is to succeed.

(4) Using repeated measures ANOVAs, a significant TX Status (intervention vs control) by Time (initial assessment, post 1, post 2) effect was found for maternal ratings of prosocial behavior, $F(2, 102) = 4.62$, $p<.02$; undesirable

Table 2
Outcome Status of Families Completing Initial Assessment (N = 99)

| Outcome status | Treatment Group: Mother Only | Both Parents | No Treatment |
|---|---|---|---|
| Qualified for intervention | (n = 27) | (n = 29) | (n = 26) |
| Tx completed | 63% | 41% | 92%[a] |
| Tx partially completed | 11% | 14% | NA |
| Separated during Tx | 11% | 3% | NA |
| Refused/unable to commit to Tx | 15% | 41% | 8%[b] |
| Not qualified for intervention | (n = 6) | (n = 7) | (n = 4) |
| Separated before Tx offered | 67% | 86% | 75% |
| Moved from service area | 33% | 14% | 25% |
| Totals | 33 | 36 | 30 |

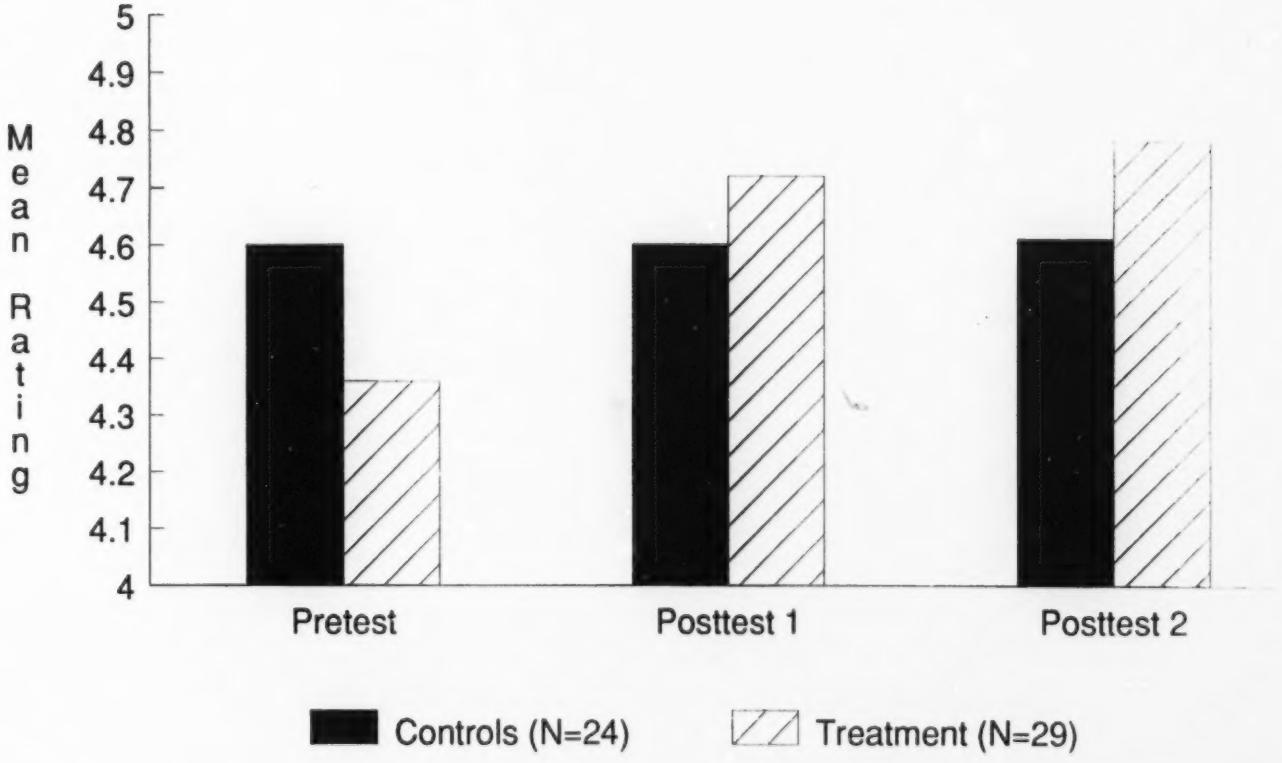
Note. [a]For no treatment controls, "Tx completed" means completing all assessments and remaining intact through post-test 2. [b]For no treatment controls, "Refused/unable to commit" refers to intact families who refused to take part in any post test data collection.

Table 3
Comparison of Intervention (N = 29) and Control Families (N = 24) on the Outcome Measures

| Outcome Measure | | Assessment Time Point: Initial | Post 1 | Post 2 |
|---|---|---|---|---|
| **Prosocial Behavior** | | | | |
| Intervention | M | $4.36_a$ | $4.72_a$ | 4.78 |
| | SD | .46 | .52 | .49 |
| Control | M | 4.60 | 4.60 | 4.61 |
| | SD | .65 | .68 | .65 |
| **Undesirable Behavior** | | | | |
| Intervention | M | $3.02_a$ | $2.64_a$ | 2.66 |
| | SD | .43 | .47 | .59 |
| Control | M | 2.85 | 2.85 | 2.68 |
| | SD | .55 | .51 | .45 |
| **Ratio of Prosocial to Undesirable Behaviors** | | | | |
| Intervention | M | $1.48_a$ | $1.86_a$ | 1.92 |
| | SD | .27 | .49 | .64 |
| Control | M | 1.68 | 1.68 | 1.79 |
| | SD | .42 | .46 | .47 |

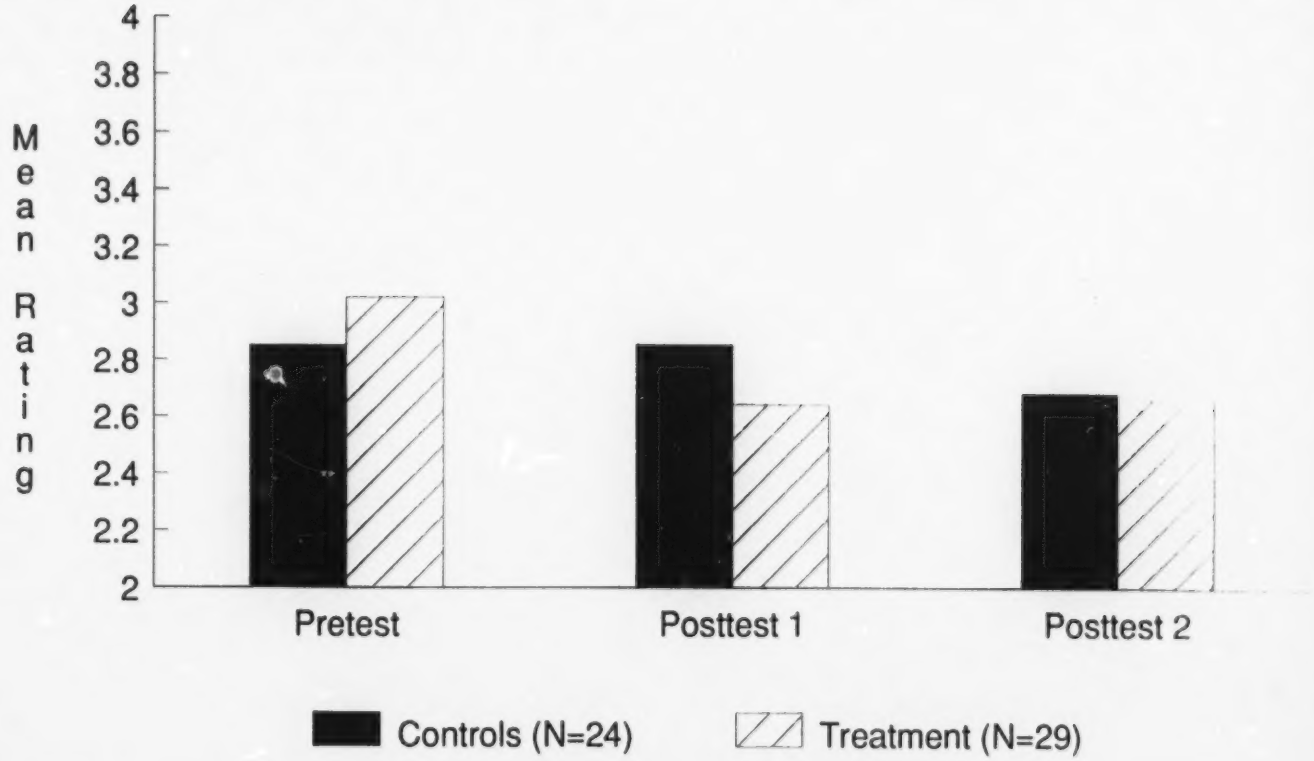
Note. Means with the same subscript differ at $p < .05$.

## Figure 1: Mothers' Mean Ratings of Positive Behaviors, Control vs. Combined Treatment Conditions



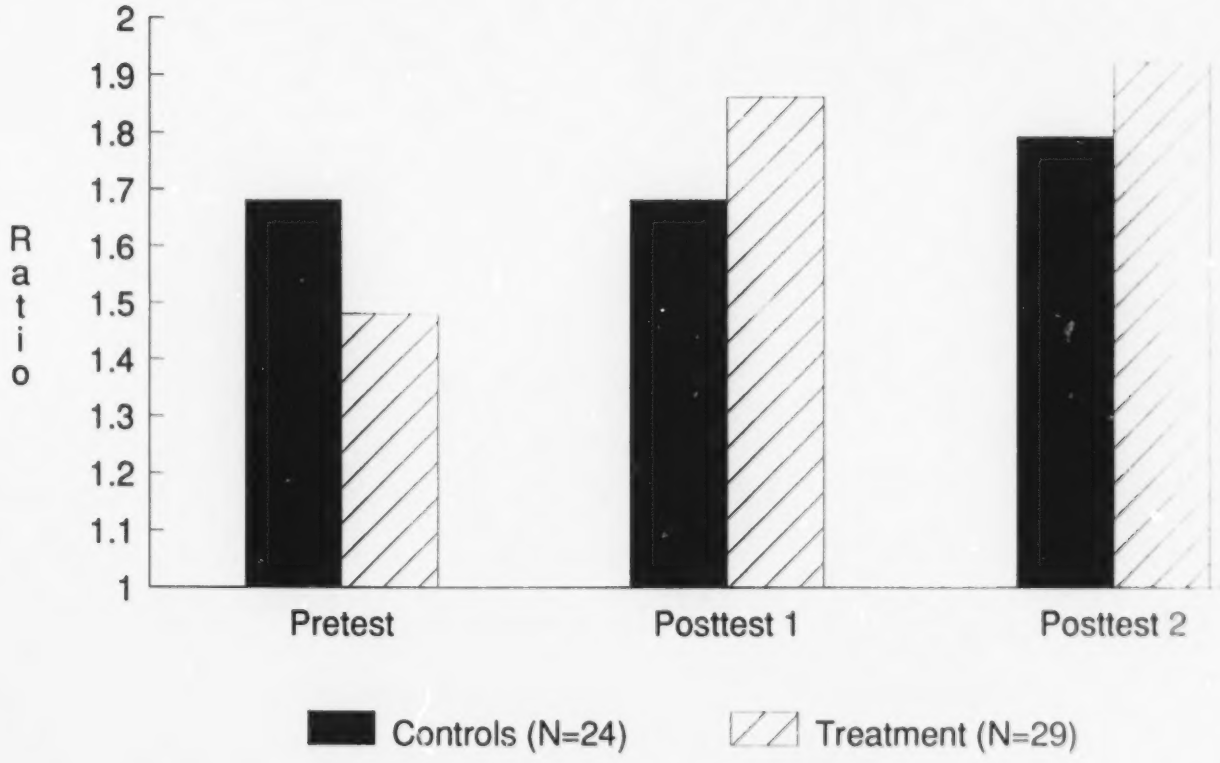

Post 1: 16 weeks. Post 2: 48 weeks.

## Figure 2: Mothers' Mean Ratings of Negative Behaviors, Control vs. Combined Treatment Conditions




Post 1: 16 weeks. Post 2: 48 weeks.

## Figure 3: Ratio of Positive to Negative Behaviors, Control vs. Combined Treatment Conditions




Post 1: 16 weeks. Post 2: 48 weeks.

behavior, $F(2, 102) = 4.78$, $p=.01$; and the ratio of prosocial to undesirable behavior, $F(2, 102) = 5.82$, $p<.01$. Post hoc tests using the Tukey HSD procedure showed the following results for each outcome measure: (a) no difference between Intervention (Groups 1 & 2 combined) and Control groups at initial assessment; (b) no changes over time on each outcome measures for the Control group; (c) significant changes in the positive direction on each outcome measure from initial assessment to post 1 for Intervention families; and (d) no changes on each of the outcome measures from post 1 to post 2 for the Intervention group. Table 3 presents the means and SD's by group and outcome measure and Figures 1 through 3 graphically present means for each outcome measure.

In summary, improvements were found in ratings of prosocial behavior, undesirable behavior, and in the ratio of prosocial to undesirable behavior for the Intervention families (Groups 1 & 2 combined). Over the same time interval, ratings of child behavior in control families remained unchanged. Observed differences for the combined treatment groups versus the control group were larger at Posttest 1 following the intensive initial weekly phase of the intervention.

## Conclusions

The results of the study suggest that this outreach prevention program was successful with respect to recruitment and engagement of at risk families in an extensive research/ intervention protocol. Random assignment to treatment conditions was both possible and effective in minimizing differences among experimental groups. Most importantly, the child management intervention was able to begin to make a significant positive impact on those behavioral characteristics of preschool age target children which would put them at enhanced risk for more serious problems as they mature. The program will continue to follow these families in order to ascertain the resilience of this effect over time.

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